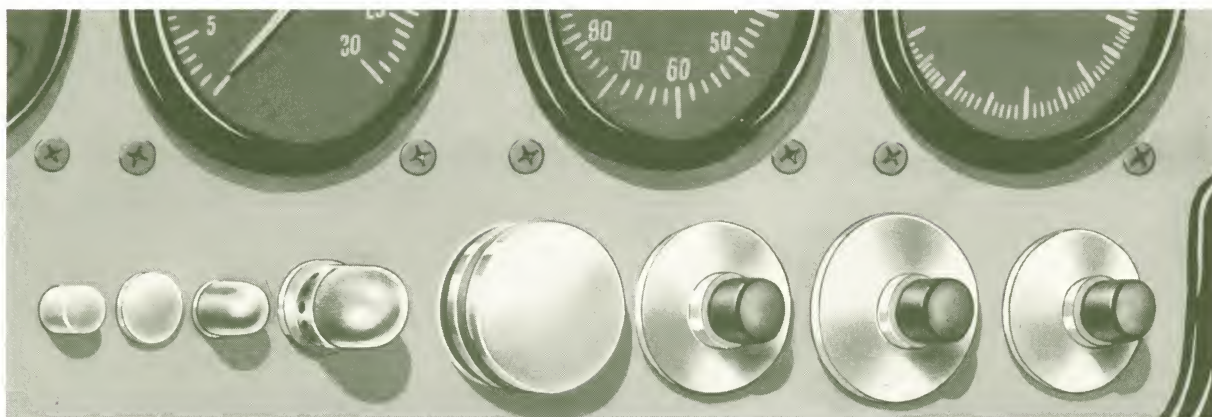




RFI-SHIELDED COMPONENTS

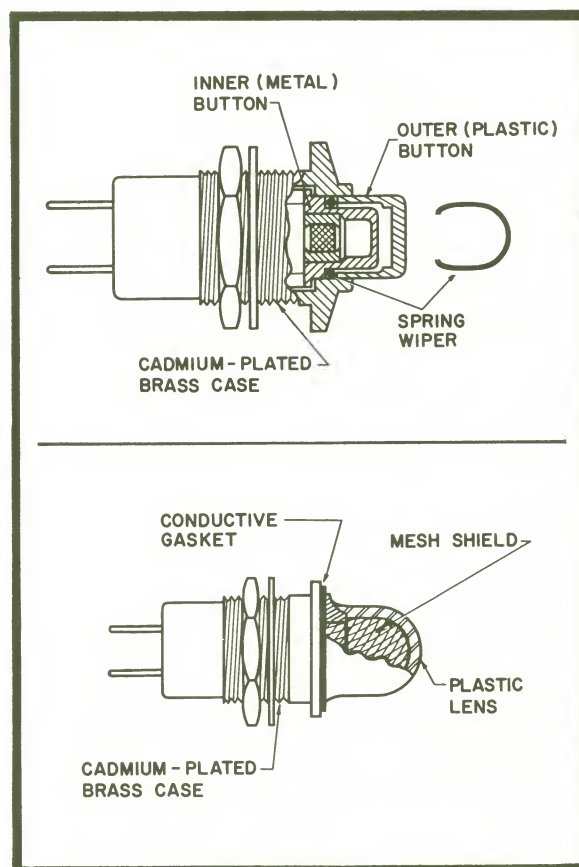
Pushbutton Switches • Indicator Lights

These shielded components are especially designed to minimize emission of radio-frequency interference in airborne and military electronic equipment. Conventional front-of-panel components often permit RFI leaks in an otherwise well-shielded system, since they contain areas that are isolated from the panel ground circuit. Typical of such potential RFI radiators are moving metal parts of switches and filaments of lamps. Control Switch shielded components bridge these gaps, and thus effectively attenuate conduction and radiation of RFI in the important 0.15 to 1000 mc range. They are designed to meet requirements for use in radiation-free airborne electronic equipment conforming to MIL-I-26600.

HOW RFI IS CONTROLLED

Pushbutton Switches (upper dwg.): All non-current-carrying moving metal parts within the switch are connected to the switch case through various forms of multi-point-contact spring wipers. A typical form is shown at right. The U-shaped wiper surrounds the inner metal button of the switch and maintains continuous contact with the case at all points of switch travel. Switch cases are cadmium-plated brass to insure a low-impedance RF path to ground through the panel.

Indicator Lights (lower dwg.): Any RFI emission from lamp filaments is absorbed by a metal mesh shield within the plastic indicator lens. Electrical continuity between shield and case is provided by a special conductive gasket, in standard-size removable-lens models; and by permanent bonding, in sub-miniature models. As in the switches, a cadmium-plated brass case completes the path to ground.

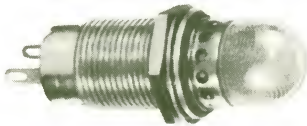


RFI-SHIELDED INDICATOR LIGHTS

STANDARD

These indicators have large ($\frac{1}{4}$ " diameter) lenses projecting from the panel for omnidirectional visibility. Lenses are removable from panel front for lamp replacement. Cases have integral mounting flange with panel cut-out indexing tab. Silver-plated lamp contacts are spring loaded for dependable indication under conditions of vibration.

Incandescent types use MS-25237 lamps. Standard-intensity neon types have built-in 62,000 ohm resistors and use NE2D lamps. High-intensity neon types have 25,000 ohm resistors and use NE2J lamps.



Model	Lens	Voltage	Current (amps)	Matches Non-Shielded Model
STANDARD SIZES				
<i>Incandescent Types—MS-25237 Lamps</i>				
L14220 L14221 L14222 L14225	Dome	28 DC 14 DC 6 DC Without lamp	0.04 0.08 0.20	L14000 L14001 L14002 L14005
<i>Standard-Intensity Neon Types—NE2D Lamps</i>				
L15220 L15225	Dome	115 AC Without lamp	0.001	L15010 L15015
<i>High-Intensity Neon Types—NE2J Lamps</i>				
L15240 L15245	Dome	115 AC Without lamp	0.002	L15200 L15205
SUB-MINIATURE SIZES				
L10420 L10020	Dome	28 DC 5 DC	0.024 0.060	L10400 L10000
L10520 L10120	Flat, circular in cylinder mount	28 DC 5 DC	0.024 0.060	L10500 L10100
L10620 L10220	Flat, circular for flush panel mounting	28 DC 5 DC	0.024 0.060	L10600 L10200

SUB-MINIATURE

These tiny RFI-shielded indicators help designers solve the space/weight problem in crowded aircraft panels. All types are within $\frac{1}{16}$ " overall length and weigh less than 0.032 oz. Lamp, lens, and RFI shield are molded into the stainless steel case to form a permanently moisture-proof unit.

The long life expectancy of these indicators—16,000 hours for the 28V models, 60,000 hours for the 5V—usually matches the projected useful life of the equipment in which they are installed. Unusually rugged filaments contribute to this long life.

All sub-miniature indicators mount with a single #10-32 stud and have stranded wire leads. Three lens styles cover all requirements:



Dome The $\frac{1}{32}$ " diameter lens of this indicator projects a full $\frac{1}{32}$ " in front of the panel, to give maximum all-round visibility.



Flat This model has a flat 0.22" circular lens in a stainless steel mount that projects $\frac{1}{4}$ " beyond the panel. Lens face can be engraved with up to two $\frac{1}{8}$ " characters.



Flush Mounting This $\frac{3}{16}$ " circular lens is set in a beveled stainless steel ring, to mount flush with the panel face. Lens may be engraved.

HOW TO ORDER

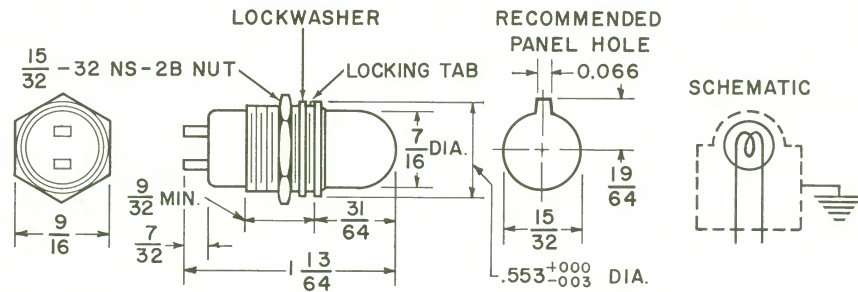
Specify quantity, model number, and lens color desired. For example, to order 25 flush-mounting 28V sub-miniature indicators with transparent amber lens:
25 L10600AM1

LENS COLORS AVAILABLE (add appropriate suffix to basic model number)							
	Standard Indicators			Sub-Miniature Indicators			
	Incandescent		Neon	5V		28V	
	Trans-lucent	Trans-parent	Trans-parent	Trans-lucent	Trans-parent	Trans-lucent	Trans-parent
RED	R5	R1	R1	R	R1	R	R1
GREEN	G4	G3	—	G	G3	G	G1
AMBER	AM1	AM	AM	AM1	AM	AM	AM1
WHITE	—	W2	W2	W	—	W	—
YELLOW	Y2	—	—	Y	—	Y	—
BLUE	BL3	BL4	—	BL	BL4	BL	BL1
CLEAR	—	C	C	—	C	—	C

STANDARD

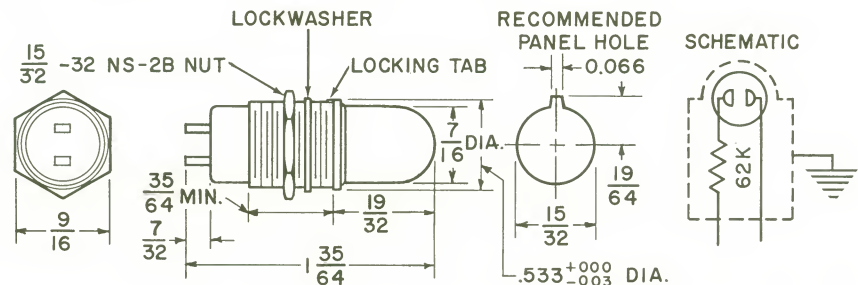
Incandescent

Models
L14220
L14221
L14222



Neon

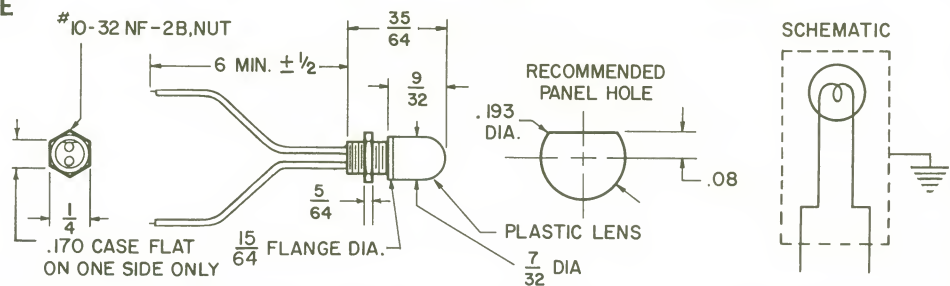
Model
L15220



SUB-MINIATURE

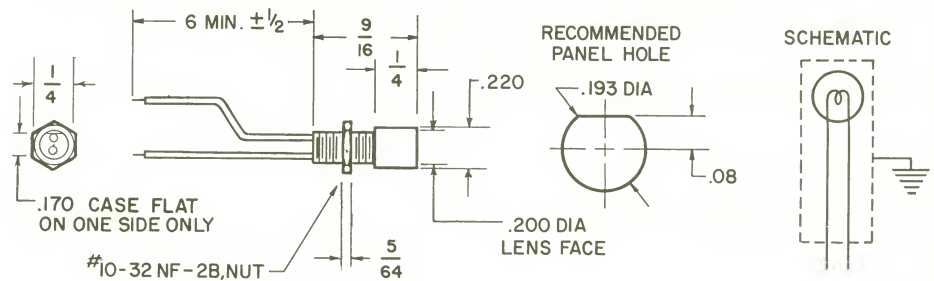
Domed Lens

Models
L10420
L10020



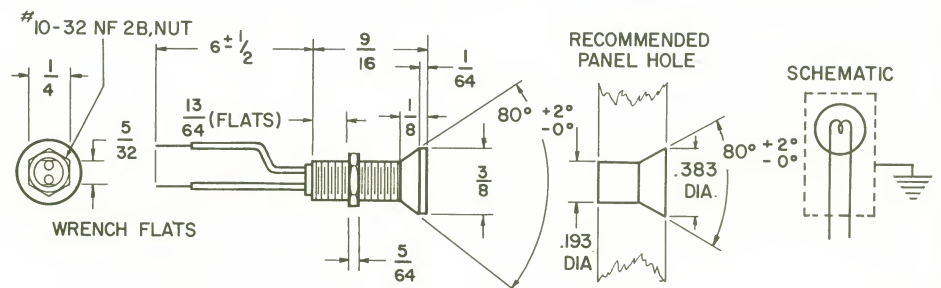
Flat Lens

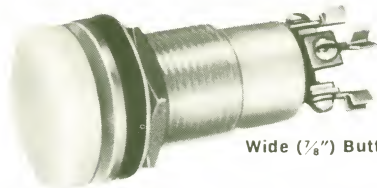
Models
L10520
L10120



Flush Mounting

Models
L10620
L10220





Wide (7/8") Button Type



Standard (3/8") Button Type

RFI-SHIELDED PUSHBUTTON SWITCHES

These rugged shielded units have the same high-quality construction that has earned standard Control Switch pushbuttons a reputation for long-life reliability. Minimum life expectancy is 25,000 operations at full rated load. All switches have 1000V dielectric strength and will withstand 50G shock and 20G vibration loads. Bodies are moisture-proof in accordance with MIL-S-6743.

Momentary-contact models give the operator a positive snap-action feel and provide fast make-and-break with high contact pressure.

All switches are fitted with large-diameter black painted adapters for panel mounting (in place of the normal front-of-panel nut). These improve panel appearance, permit switch insertion and removal without marring the panel, and provide space for engraving an identifying legend.

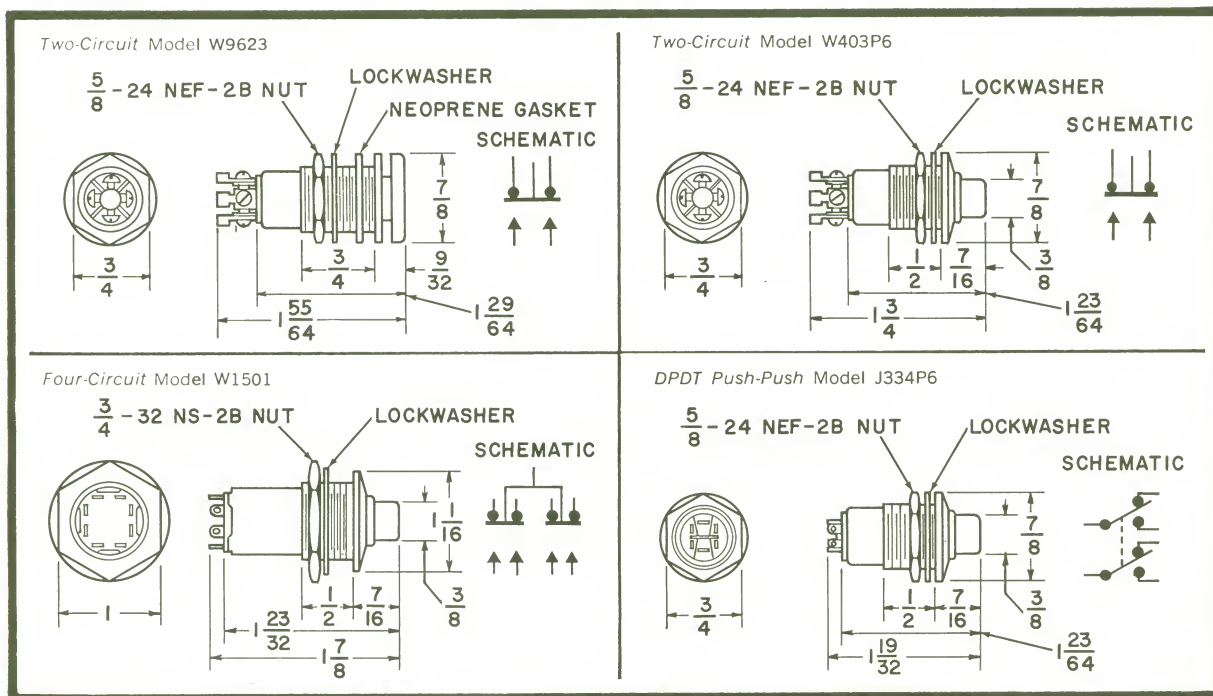
	Model	Circuit	Contact	Rating		Matches Non-Shielded Model
				Volts	Amps	
WIDE BUTTON	W9623	Two-Circuit 1 NO & 1 NC	Momentary	28 DC	5 inductive 10 resistive	W9603
	W403P6	Two-circuit 1 NO & 1 NC	Momentary	28 DC	5 inductive 10 resistive	W103P6
STANDARD BUTTON	W1501	Four-circuit 2 NO & 2 NC	Momentary	28 DC	2 inductive 4 resistive	WC150P6
	J334P6	DPDT Push-Push	Maintained	28 DC 120 AC	1 resistive	J333P6

Plastic Pushbutton available in black or red. Black is standard; add suffix "R" to basic model number for red button.

HOW TO ORDER

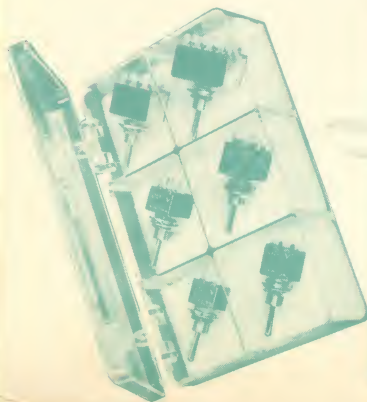
Specify quantity, switch model number, and button color. For example, to order 50 two-circuit switches with red button:

50 W403P6R



CONTROL SWITCH DIVISION

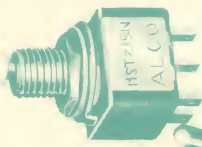
1420 Delmar Drive, Folcroft, Pennsylvania 19032
Telephone (215) LUdlow 6-7500 • TWX 215-534-0241



SAMPLER KITS

ALCO products, including the most popular ultra-miniature Alcoswitches, are arranged in laboratory assortments to provide immediate use and evaluation. The kit assortments offer the engineer or technician a complete line of switches and other products, thus bypassing the time delaying paper work and order expediting.

MST SWITCH ASSORTMENT



Combines high current capacity, ultra-miniature size and long life with Alcoswitch precision. Rated 5 amps @ 115 VAC. Contacts and terminals are of solid silver. 1/2" case size. 1/4-40 bushings.

MST105D	SPDT	On-None-On	1.65
MST105E	SPDT	On-Off-On	1.95
MST205N	DPDT	On-None-On	2.15
MST205PA	DP3T	On-On-On	2.85
MST305D	3PDT	On-None-On	3.85
MST405N	4PDT	On-None-On	4.85

Reg. Net 17.30

SPECIAL
SAMPLER PRICE
14⁰⁰
Reg. Net 17.30



SWITCH ASSORTMENT



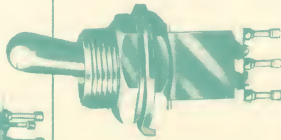
New waterproof switch series with "O" rings. High voltage barriers, low loss, high impact materials and turret terminals to simplify wiring. Bonded silver contacts. Rated 6 amps @ 125 VAC 1/4-40 bushing.

MSTE106D	SPDT	On-None-On	1.95
MSTE106E	SPDT	On-Off-On	2.55
MSTE206N	DPDT	On-None-On	2.55
MSTE206PA	DP3T	On-On-On	3.45
MSTE306D	3PDT	On-None-On	4.25
MSTE406N	4PDT	On-None-On	5.35

Reg. Net 20.10

SPECIAL
SAMPLER PRICE
16⁰⁰
Reg. Net 20.10

Mustang SWITCH ASSORTMENT



Features a 15/32" hole mounting for designers who prefer the feel of a standard toggle but have rear space limitations of a miniature switch. Case construction and material same as "E" Series. Rated 6 amps @ 125 VAC.

MSTG206N	DPDT	On-None-On	2.75
MSTG206P	DPDT	On-Off-On	3.35
MSTG206PA	DP3T	On-On-On	3.65
MSTG306D	3PDT	On-None-On	4.45
MSTG406N	4PDT	On-None-On	5.55

Reg. Net 19.75

SPECIAL
SAMPLER PRICE
16⁰⁰
Reg. Net 19.75

MSP SWITCH ASSORTMENT



MSP105F and 205R have high current capacity in a compact momentary push button switch. MSP 105D and 205N are push to make, push to break for reversing applications 1/4-40 bushing.

MSP105F	SPDT	Momentary	1.95
MSP205R	DPDT	Momentary	2.85
MSP105D	SPDT	Push On-Off	1.95
MSP205N	SPDT	Push On-Off	2.85

Reg. Net 9.60

SPECIAL
SAMPLER PRICE
7⁰⁰
Reg. Net 9.60

SWITCH PLATE ASSORTMENT



Pressure sensitive, aluminum foil "on-off" plates for Alcoswitches and other miniature switches having 1/4" bushing; and for standard switches requiring 15/32" hole. Each card has 12 plates.

SP1	10 cards of 1/4" hole dia.	2.50
SP2	10 cards of 15/32" hole dia.	2.50

Reg. Net 5.00

SPECIAL
SAMPLER PRICE
4⁰⁰
Reg. Net 5.00

COUPON

A	B	C	D	E
DESCRIPTION MST Series Toggle Switch Kit includes 6 switches: MST105D, MST105E, MST205N, MST205PA, MST305D, MST405N.	DESCRIPTION "E" Series Toggle Switch Kit includes 6 switches: MSTE106D, MSTE106E, MSTE206N, MSTE206PA, MSTE306D, MSTE406N.	DESCRIPTION MSTG Series Toggle Switch Kit includes 5 switches: MSTG206N, MSTG206P, MSTG206PA, MSTG306D, MSTG406N.	DESCRIPTION MSP Series Push Button Switch Kit includes 4 switches: MSP105F, MSP205R, MSP105D, MSP205N.	DESCRIPTION Switch Plate Kit includes: 10 cards of plates for miniature, and 10 cards for standard switches (a total of 240 ON-OFF plates).
SHIP NO. OF KITS				
KIT PRICE		16.00	7.00	4.00
TOTAL PRICE				

TOTAL PRICE

CONTENTS AND PRICES SUBJECT TO CHANGE

SAMPLER KIT PRICES HAVE AN EXCLUSIVE INTRODUCTORY DISCOUNT ON A GET-ACQUAINTED BASIS TO ENGINEERS AND PURCHASING AGENTS.

KITS SHIPPED PREPAID WHEN CHECK ACCOMPANIES ORDER.

SEND ORDERS TO: ALCO ELECTRONIC PRODUCTS, INC., LAWRENCE, MASS.
Enclosed Cash ☐ Check ☐ Money Order ☐ Ship Open Account ☐

Our Purchase Order No. _____

Ship to: _____

Firm Address _____

City _____ State _____ Zip _____

Ordered by: _____



MRA ROTARY SWITCH ASSORTMENT

Ultra-miniature $\frac{1}{2}$ " dia. rotary switches with adjustable stops for flexible use. Current rating 500 ma. @ 125 VAC. Nonshorting, 36° spacing. Includes knob, has $\frac{5}{32}$ " dia. shaft.

MRA1-10 1 pole 2-10 positions 3.85
MRA2- 5 2 pole 2- 5 positions 3.85
MRA3- 3 3 pole 2- 3 positions 3.85
*MSRA4-2 4 pole 2 positions 3.85
*Fixed

Reg. Net 15.40



MRA () S ROTARY SWITCH ASSORTMENT

Adjustable-stop, miniature $\frac{1}{2}$ " dia. rotary switches, less knob, with $\frac{1}{8}$ " dia. shaft. Current rating 500 ma. @ 125 VAC. 36° spacing. Standard $\frac{1}{4}$ -40 bushing.

MRA1-10S 1 pole 2-10 positions 3.85
MRA2- 5S 2 pole 2- 5 positions 3.85
MRA3- 3S 3 pole 2- 3 positions 3.85
*MSRA4-2S 4 pole 2 positions 3.85
*Fixed

Reg. Net 15.40



MSRE ROTARY SWITCH ASSORTMENT

Non-adjustable $\frac{1}{2}$ " rotary switches. Similar to standard MRA Series, but with mechanical advantages and "O" rings for "waterproof" operation. Less knob, $\frac{1}{8}$ " dia. shaft, $\frac{1}{4}$ -40 bushing.

*MSRE1-10 1 pole, 10 positions 4.85
*MSRE2- 5 2 pole, 5 positions 4.85
*MSRE3- 3 3 pole, 3 positions 4.85
*MSRE4- 2 4 pole, 2 positions 4.85
*Fixed

Reg. Net 19.40



MEP TERMINAL STRIP KIT

Low-loss ceramic solder strips withstand excessive heat. Threaded mounting type suitable for prototype and experimental design where components need to be resoldered or removed. Pair of 6 sizes in kit.

2 Terminal MEP2 .72
4 Terminal MEP4 .90
6 Terminal MEP6 1.20
8 Terminal MEP8 1.50
10 Terminal MEP10 1.74
12 Terminal MEP12 1.98

Reg. Net 8.04



MEP-NB TERMINAL STRIP KIT

Snap-mounted ceramic solder strips simplify component replacement. Tinned copper plate on silvered ceramic facilitates soldering of components and leads. Pair of 7 sizes in kit.

3 Terminal MEP-NB3 .96
5 Terminal MEP-NB5 1.32
7 Terminal MEP-NB7 1.62
9 Terminal MEP-NB9 1.74
13 Terminal MEP-NB13 2.22
16 Terminal MEP-NB16 2.70
20 Terminal MEP-NB20 3.30

Reg. Net 13.86



NEON PILOT ASSEMBLES

Miniature one-piece body construction, ideal for space limitations. Kit contains a total of 12 pilots, one of each color (red, amber, clear, white) per series. Usable on 115 VAC with external 33K resistors.

BNE2 Round Shallow Lens 1.96
BNF2 Round Extended Lens 1.96
BND3 Square Extended Lens 2.36

Reg. Net 5.28

DESCRIPTION	SHIP NO. OF KITS	KIT PRICE	TOTAL PRICE
F MRA Series Rotary Switches (with knob) Kit includes: MRA1-10, MRA2-5, MRA3-3, MSRA4-2. SPECIAL SAMPLER PRICE 12⁰⁰ Reg. Net 15.40		12.00	
G MRA () S Series Rotary Switch (less knob) Kit includes: MRA1-10S, MRA2-5S, MRA3-3S, MSRA4-2S. SPECIAL SAMPLER PRICE 12⁰⁰ Reg. Net 15.40		12.00	
H MSRE Waterproof Rotary Switch Kit includes: MSRE1-10, MSRE2-5, MSRE3-3, MSRE4-2. SPECIAL SAMPLER PRICE 15⁰⁰ Reg. Net 19.40		15.00	
J MEP Terminal Strip Kit includes two each: MEP2, MEP4, MEP6, MEP8, MEP10, MEP12. SPECIAL SAMPLER PRICE 6⁰⁰ Reg. Net 8.04		6.00	
K MEP-NB Terminal Strip Kit includes two each: MEP-NB3, MEP-NB5, MEP-NB7, MEP-NB9, MEP-NB13, MEP-NB16, MEP-NB20. SPECIAL SAMPLER PRICE 10⁰⁰ Reg. Net 13.86		10.00	
L Neon Pilot Assembly Kit includes four each: BNE-2, BNF-2, BND-3. SPECIAL SAMPLER PRICE 5⁰⁰ Reg. Net 6.28		5.00	
TOTAL PRICE			CONTENTS AND PRICES SUBJECT TO CHANGE